

# Web-based Encyclopedia of Nature Tourism, Religion, and Culinary in Kudus City

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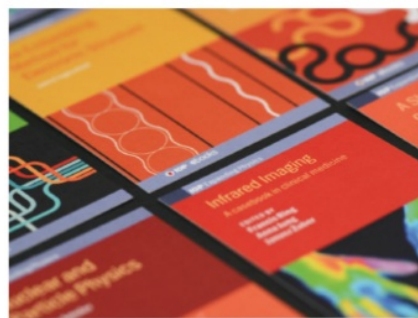
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## Web-based Encyclopedia of Nature Tourism, Religion, and Culinary in Kudus City

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**Abstract.** Kudus City is one of the cities in Central Java Province. Tourism potential in the city of Kudus is very large. Besides being known as the City of Kretek, Kudus also has religious, natural and culinary tourism which is well-known in Java. Kudus is famous with the religious tourism for the existence of Sunan Kudus and Sunan Muria's graves. Kudus also has beautiful nature, along with the development of a very interesting time. Nature and religious tourism, Kudus specialties are well known in Indonesia. Therefore, this research produces a forum that contains information and locations for natural, religious and culinary tourism in the Kudus city. From this encyclopedia, people can search for the destination and it is equipped with a map as the closest distance guide because in this application it is connected to Google Maps API.

### 1. Introduction

Kudus is a small city which only consists of 9 sub-districts, but the development of Kudus city is very rapid. This is supported by the economy of the Kudus City. In this small town, large companies such as djarum, polytron, sukun, nojorono and other large companies have been established. This is very helpful for the development of the Kudus city, both infrastructure and tourism. Many people in Indonesia know the city of Kudus as a city of kretek, but besides that Kudus is also called a city of saints. It is because there are two saints in the Kudus city, namely the Kudus Sunan and the Sunan Muria. Therefore, the religious tourism of the Kudus city is much loved by the Muslim community that is to visit the grave of Kudus and Sunan Muria [1].

Besides religious tourism, Kudus is also known for its food. Many Kudus foods are sold in every city in Indonesia, for example "Soto Kudus". Almost in every city there are traders who sell Soto Kudus. Not only soto kudus, many foods have become icons of culinary tourism in the Kudus city, such as lentog, jenang Kudus, madu mongso, garang asem, and many more.

The two tourism objects described above are not the only ones which can satisfy visitors because Kudus also has beautiful nature. From its geographical location, the city of Kudus has a plateau, namely Mount Muria. The Muria Mountains cover 3 cities, namely Kudus, Pati and Jepara. This makes people around it do efforts to develop this natural tourism. Many natural attractions have sprung up now, such as the Rahtawu area, Temadi, Kuwukan waterfalls, Sardi park and many more.

From the data that has been described, to accommodate natural, religious and culinary tourism in the Kudus city, a Kudus city encyclopedia will be made. The purpose of this application is to make it easier for the Kudus and outer Kudus people to find these tourist destinations. This application is equipped with Google Maps API, so that people can find out the location of each tourist destination that will be



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visited. With the facilities in this application, users can determine the closest distance from one destination to another.

The city government of Kudus is also helped by the existence of this Kudus city encyclopedia. This makes it easier for the city administration to detect all the tours of the Kudus city. In addition, this application can be a place to promote Kudus city in terms of tourism and increase regional income.

To strengthen this research, the author also conducted a study [2] previous studies. The first research is to determine the closest distance from the school location. The promotion team of Muria Kudus University (UMK) has done annual promotion visits to several senior high schools in Indonesia. The visits were done to numbers of schools in Kudus, Jepara, Demak, Rembang and Purwodadi. To simplify the visit, each visit round is limited to 15 (fifteen) schools. However, the team frequently faces some obstacles during the visit, especially in determining the route that they should take toward the targeted school. It is due to long distance travel duration and inefficient fuel cost. To solve these problems, the development of certain applications using heuristic genetic algorithm methods based on population size or population resizing on fitness improvement genetic algorithm (PRIVATE), was done. Formulation in the research of web-based [2] encyclopedia of natural tourism, religion and culinary, Kudus, how to design a container to accommodate tourism in the Kudus city. How to build a tourist website with map facilities as directions for visitors?

This android-based application was developed to make it easier and more effective for shorter teams, hence, the visiting period will be effective and efficient. The result of this research is android-based application to determine the shortest route by combining heuristic methods and Google Maps Application Programming Interface (API) that displays the route options for the team [3]. The second research is the basis of this research, because this research is a development from previous research. Previous research used a prototype approach in the preparation of this study. In line with growing development of the Android operating system in Indonesia, the researchers combined this application based on Android. The results of this study produced a culinary application for Kudus city based on android [4][5].

## 2. Methodology

This study uses the prototype method. Prototype Model is one of the most widely used software development methods. With this Prototyping Method, development and customers can interact with each other during the system creation process. Prototype Model can be shown in Figure 1. It often happens that a customer only defines in general what is needed, processing and what data is needed. On the other hand, on the developer side, they lack attention to the efficiency of the algorithm. The ability of operating systems and interfaces that connect humans to computers [6].

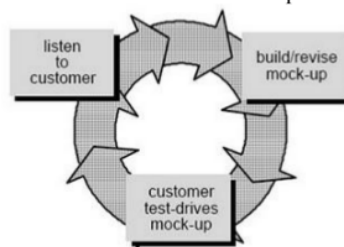


Figure 1. Prototype Model

### Collection of Needs and improvements

Determining all requirements is done for software development. In addition, data collection methods and interviews are also carried out at this stage. Observation is one of the data / fact collection techniques, that is effective enough to study a system. Observation is direct observation of decision

makers and their physical environment and / or direct observation of an ongoing activity. In this study it is also conducted a direct interview with BJ Sanob as a bureau and travel agency in the city of Kudus. The translation phase of the needs or data that has been analyzed into a form that is easily understood by the user. In this design stage it is divided into 3 designs, namely design for natural tourism, culinary tourism design and religious tourism design. The design is built using conventional designs, namely context diagrams, DFD and continued with table design before entering into coding [7][8]. This prototype form stage is to translate data that has been designed into a programming language. The programming languages used are HTML and PHP. Programs are tested by customers, and if there are deficiencies in the program can be added. After the programs are completely repaired according to consumer needs, then the programs are re-created and evaluated by consumers until all user needs are met. And the last, programs have been made and all user needs have been fulfilled.

### 3. Result and Discussion

The results of this study are a web-based application for encyclopedia of natural, religious and culinary tourism. The design of this study consists of three designs namely design for religious, natural and culinary tourism.

The design of the Religious Travel Data Collection System in Kudus Regency was carried out using Context Diagrams and Data Flow Diagrams (DFD). Context diagram shows the overall designed system, all external entities must be described in such a way, so that the data that flows in the input-process-output is visible. Context diagram can be shown in Figure 2.

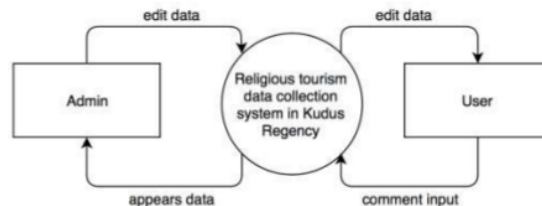


Figure 2. Context Diagram of religious tourism

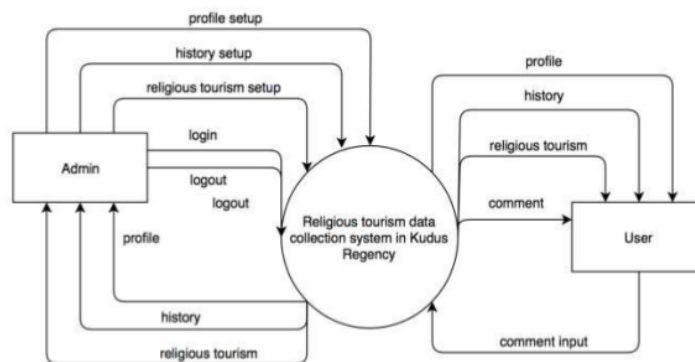
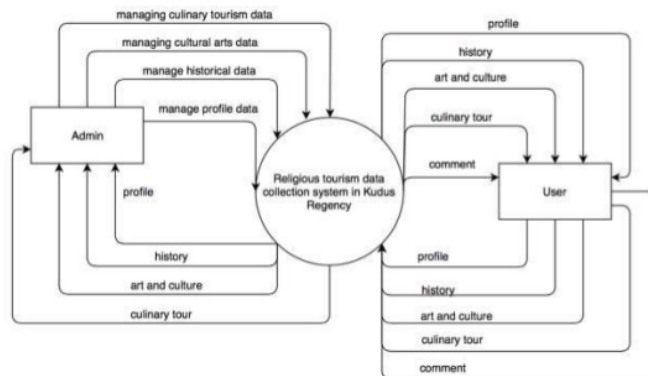


Figure 3. DFD Level 0 religious tourism

In DFD Level 0 of religious tourism the admin inputs complete and detailed religious tourism data. Users search for religious tourism data based on keywords, and the data that will be accessed by the search query is complete data. Search results from religious tourism data will be displayed to the user. This can be shown in Figure 3.

System design is the initial stage where the initial approach to solving the problem is chosen. While the detailed system design is intended for computer program makers and other technical experts who will

implement the system. Based on the functional requirements of the system being built, there are two entities in the Culinary Travel Data Collection System, namely admin and user. Before using the system the admin must log into the system then the system will confirm the login that is done by the admin. Then the admin will be on the system's start page. Here there are many menus including, dashboard menu, admin setup menu, setup menu about Kudus, culinary tourism menu. If the admin wants to see the admin data then the system will give the admin data output recorded to the admin. And if the admin chooses a culinary tourism menu, the system will provide culinary tourism output to the admin. If the admin wants to see the dashboard menu, the system will output the dashboard to the admin. Before using the system, users can immediately see the latest culinary tour data. In Figure 4 is the Data Flow Diagram of the Culinary Tourism Data Collection Information System in Kudus Regency.



**Figure 4.** Diagram of culinary tourism context

In the culinary tourism data collection system there are 2 systems, namely data processing and data display. At this level there are two entities, namely user and admin entities. In the sub menu if the admin data performs input in the form of updating profile data, the system will provide the latest profile data output. If the admin updates the historical data, the system will provide output in the form of the latest historical data. If the admin updates the art & culture menu, the system will provide the latest output in the form of art & culture. If the admin updates the culinary tourism menu, the system will provide output in the form of the latest culinary tourism display. The DFD Level 0 for culinary tourism can be shown in Figure 5.



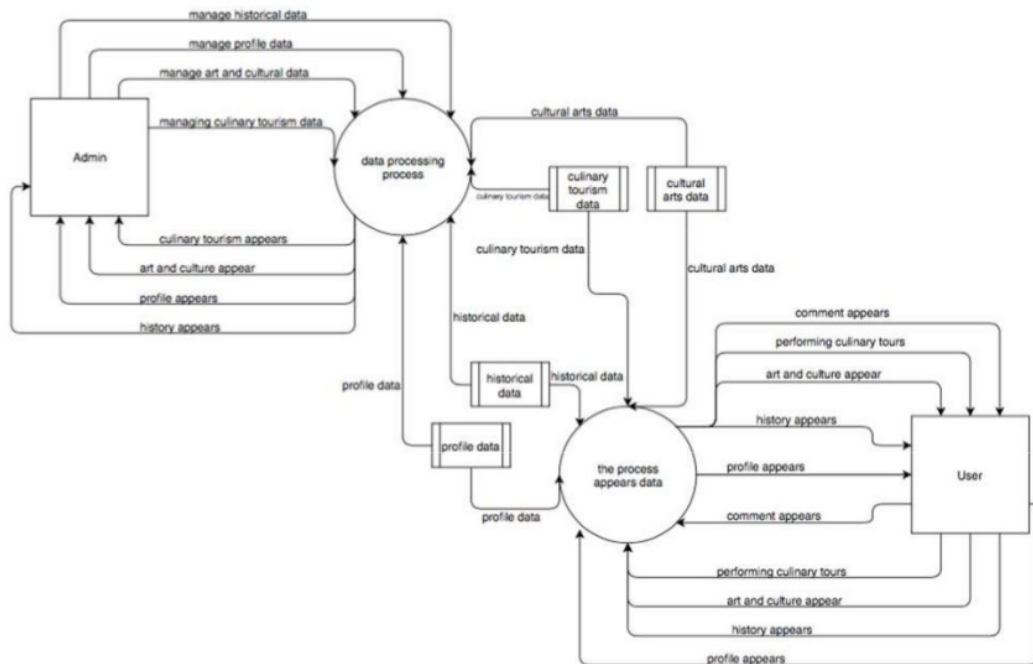


Figure 5. DFD Level 0 culinary tourism

Figure 6 is the Database Design of Kudus Regency Culinary Tourism Data Collection System.

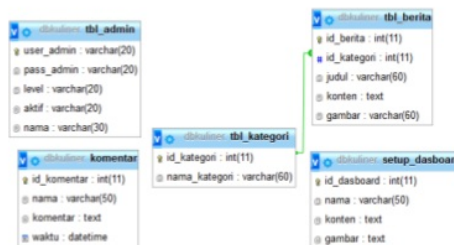


Figure 6. Relationship of the culinary tourism table

The next design is for the design of natural tourism shown in Figure 7, namely the context diagram. Figure 8 is a DFD Level 0 from natural tourism design.

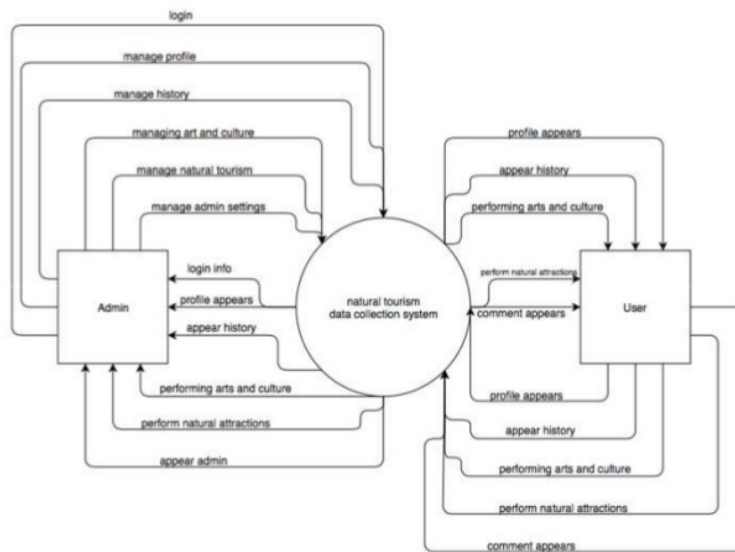


Figure 7. Context Natural tourism diagram

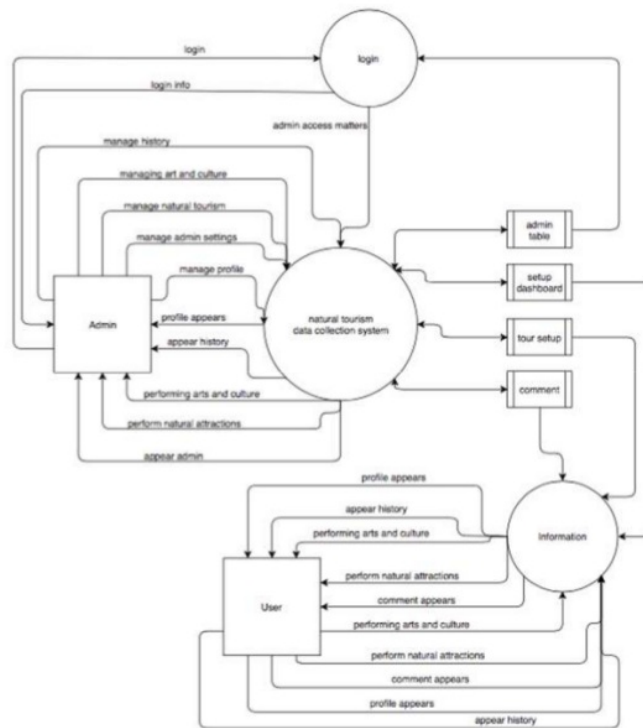


Figure 8. DFD Level 0 natural tourism



After the three designs were carried out, the prototype implementation was done. That is by encoding the path that has been created in the design. Here is a web-based display of the natural, religious and culinary encyclopedia application. On the home page of Figure 9 application, we can see a glimpse of Kudus Regency. Besides being known as the city of kretek, Kudus is also known as the city of santri.

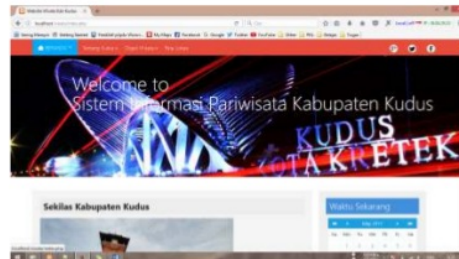


Figure 9. The main page of the Kudus tourist encyclopedia

In Figure 10 it describes the detail of tours offered in Kudus Regency, especially in religious tourism and natural tourism, such as Sunan Kudus Religious Tourism and Sunan Muria Religious Tourism, which is equipped with a tourist map in Figure 11.

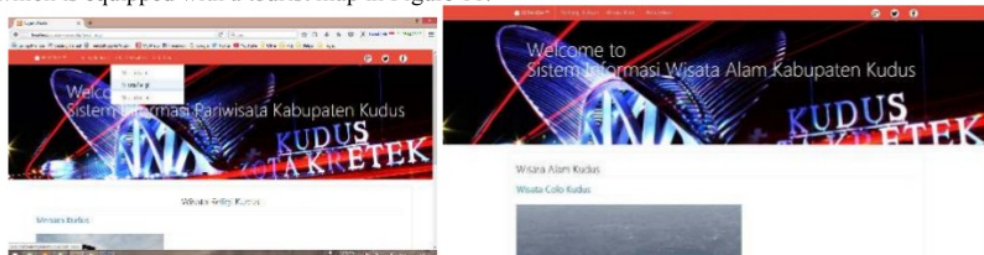


Figure 10. Religious and natural tourism

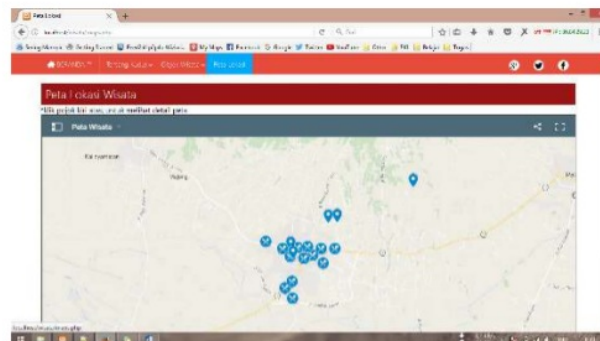


Figure 11. Tourist Location Map

On culinary tours shown in Figure 12, from this view the user can choose culinary tours in the city of Kudus. It is equipped with maps such as religious and natural tours, which are shown in Figure 13.



Figure 12. Culinary tours of Kudus city

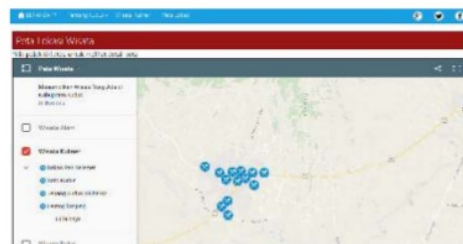


Figure 13. Culinary tourism maps

This application also features a dashboard to manage natural, religious and culinary tourism data in the Kudus city. If the admin has logged in the system, the admin is directly addressed to the admin's home page and can add / delete the existing data. As seen in Figure 14.

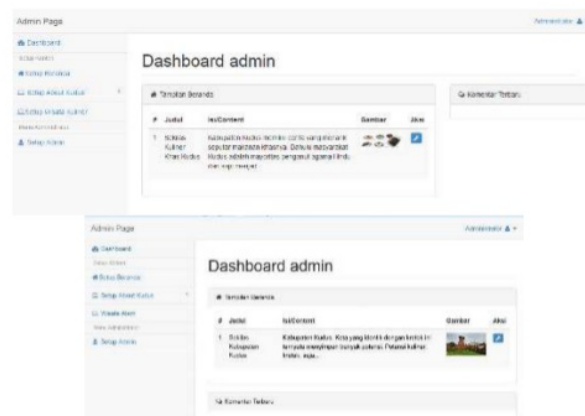


Figure 14. Pages Admin

#### 4. Conclusion

This research resulted in an application that can be used by people in search of religious tourism, culinary tourism and nature tourism in the Kudus city. With this application, helps local governments in promoting the Kudus City. Thus increasing local revenue Kudus city through tourism. Especially in religious tourism, because the city of Kudus has high value cultural values, namely Sunan Kudus and Sunan Muria.

#### 5. References

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